

### **ABSTRACT**

[1085] A variable inductor can be formed on an integrated circuit with a primary conductor, a secondary conductor, and a switch. The primary conductor implements an inductor and may be formed in various patterns (e.g., a spiral). The secondary conductor forms a loop in proximity to (e.g., on the outside of) the primary conductor. The switch couples in series with the secondary conductor and opens or closes the loop. The inductance of the inductor is varied by closing and opening the loop with the switch. A current source may also be coupled in series with the secondary conductor and used to control the current flow in the secondary conductor to either increase or decrease the inductance. Multiple loops may be formed to change the inductance in more than two discrete steps. The variable inductor may be used for various applications such as filters, VCOs, and impedance matching networks.